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J. VAILLANT	)	
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For: <b>MECHANICAL SHOEING</b>	)	
<b>FOR HOOF, WHICH IS</b>	)	
<b>INTENDED, IN</b>	)	
<b>PARTICULAR, FOR</b>	)	
<b>SPORT HORSES</b>	)	
	)	
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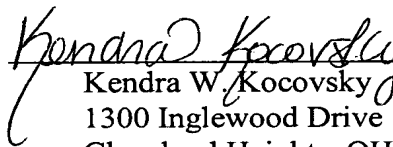
**STATEMENT OF VERIFIED ENGLISH TRANSLATION**

Commissioner For Patents  
P.O. Box 1450  
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Dear Sir:

The undersigned translator is fluent in French and English and that to the best of her knowledge and belief, the enclosed is a true and accurate translation of the French-language International Patent Application No. PCT/FR2005/000567 (WO 2005/086998).

The undersigned further declares that all statements made herein of her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful and false statements may jeopardize the validity of the application or any patent issuing thereon.

 Date: 3/21/07  
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**MECHANICAL SHOEING FOR HOOF, WHICH IS INTENDED,  
IN PARTICULAR, FOR SPORT HORSES**

The present invention concerns a mechanical shoeing intended to be mounted on the hoof of an equine in general, but more particularly of a sport horse.

Indeed, the shod feet of sport horses are generally subjected to very strong  
5 demands due to the weight of the iron and the various overloads due to the lack of mobility of the shod foot, causing serious muscular, tendon, and joint lesions:

- overloads due to the lengthening of the lever arm in the phase of the departure of the foot,
- overloads of the heels in the phase of placing down the foot and absorbing  
10 impact,
- overloads due to rough displacement in the phase of side displacement while turning, because of hardness of the course becoming increasingly more marked with tracks.

One finds in the prior art some solutions which propose to separately solve  
15 one or the other of the problems stated while omitting to solve the others, which are very often not the least.

This causes in the long run concerns with a general balance of the foot. It follows naturally of the problems of lameness, and a strongly reduced sporting career for equines.  
20

The purpose of the invention is thus to solve all of the above mentioned problems, without requiring a major change on the part of the shoeing smith, apart from working the shape for the foot concerned, in order to join in the same standard product all  
25 the performance while improving the comfort, the protection, and the mobility of the shod foot.

To this end, the invention concerns a mechanical shoe intended to be mounted more particularly on the hoof of a sport horse, of the type formed by a central front part or toe piece, from both sides of which two side branches or quarters extend freely, the rear parts of which form heels, holes or nail holes being defined in the  
5   aforementioned side branches, in order to receive nails for fixing it on the hoof, which, in plan view, presents on its inner, hoof-facing surface, of each of the side branches includes zones which belong to the rear end parts or heels, and forming flares which are wider than the side branches, characterized in that it also presents, in the plan view, on the internal  
10   face, on each of its side branches a zone whose interior line presents a simple curved inner profile and whose width is narrower than the zone of the front central part or toe piece.

A shoe thus obtained replaces the family of shoes traditionally known on the market and can be mounted in place of those, which are metal or out of synthetic matter, obtained by forging, machining or molding solid, liquid, or pulverized. matter

The present invention relates equally to the characteristics which will arise  
15   during the description which will follow, and which will need to be considered separately or according to all their possible technical combinations.

This description is given by way of nonrestrictive example, to help better  
20   understand how the invention can be carried out, in reference to the annexed drawings which show:

Figure 1 represents has mechanical shoe according to the invention, in plan view, with the hoof of the horse.

Figure 2 is a perspective view of the outer face of the shoe according to  
25   Figure 1, intended to be in contact with the ground.

Figure 3 is a perspective view of the internal face of the shoe according to Figure 1, intended to be in contact with the hoof of the horse.

Figure 4 is in plan view of the exterior face of the shoe, according to Figure 1, represented only, before its installation.

Figure 5 is a transverse cross-sectional view in enlarged scale of the shoe along a line V.V of Figure 4.

Figure 6 is a top view in enlarged scale of a transverse nail hole.

Figure 7 is a cross-sectional view in enlarged scale along line VII.VII of Figure 4.

Figures 8 and 8a are respectively a plan view and a prospective view of an alternative embodiment of a shoe according to Figure 1.

Figure 9 is also a plan view of a different alternative embodiment of a shoe according to Figure 1.

The mechanical shoe 1 indicated overall in the figures is intended to be mounted, in order to protect the part of a hoof 2 which faces it, called a sole, which is made up of in fact of the tender and fragile parts.

The shoe 1 is formed by a front central part 3 or toe piece from both sides of which freely extend two side parts 4 and 5 or quarters, of which the rear end parts 6 and 7 form the heels.

Holes 8, 9, 10, 11 and 12, 13, 14, 15 or nail holes are defined in the aforementioned quarters 4 and 5 in order to receive the nails (not represented) for fixing it on the hoof 2. These nail holes can be located in a curved grooves 20.

According to the invention, the shoe 1 in plan view presents on its internal hoof-facing surface (Figure 3) on each of its side branches or quarters 4 and 5, has a zone A, B of reduced width, obtained by a contracting in width compared to the zone C of the wider front central part or toe piece and compared to the zones D and E at the trailing ends 6 and 7 or heels, forming flares of greater width than the quarters 4, 5. Thus, the width L1 of the central zones A, B of the side branches 4, 5 is less than the width L2 of the front part 3 and less than the width L3 of the end portions 6, 7.

As one can also notice in the figures, the end portions 6, 7 or heels present after their flared zone D, E, of new thinning zones F, G disposed towards the outer peripheral edges of the aforesaid heels 6 and 7. According to a different characteristic of

the invention, the inner and outer peripheral edges of the shoe 1 are beveled by chamfers 16 and 17 defined in direction of its external face (Figure 2), so as to define, in plan view, a contact surface H with the ground which has a width narrower than the internal face (Figure 3) of the aforementioned shoe 1, but substantially constant, on the level of the toe piece 3 extending into the two quarters 4 and 5 extending it, the aforementioned face of contact H widening on the level of the heels 6 and 7.

Advantageously, the front central part 3 or toe piece presents a plurality of ridges 18 or grooves 19 forming accordion pleats defined along the internal chamfer 17. These ridges 18 (Figures 8-8a) or grooves 19 (Figure 9) permit lateral inflection of the shoe according to the invention, i.e. permit the spacing between the two side branches 4 and 5 to expand and come together under a given stress, up to 25% compared to traditional shoes. This increase will be particularly advantageous in certain movements of the foot of the horse, for example in lateral displacement while turning. Preferably, these ridges 18 or grooves 19 will be manufactured by stamping concurrently with the shoe according to the invention.

Such shoe facilitates its installation with a maximum fit towards the back of the foot. Another advantage of a shoe thus configured is due to the fact that the side branches 4 and 5 have a reduced bearing surface on the ground that will facilitate penetration in the ground in the phase of lateral displacement while turning. This is obtained at the same time by the reduction in width discussed previously, and with the internal and external beveling of the cross-section.

With regard to the heels 6 and 7, being flared according to the invention, it is preferable that this zone is free from grooves in order to allow later drilling and tapping without difficulty, in order to permit the use of screw crampons, used during obstacle jumping contests.

In addition, the advantage obtained by the narrowed zones F, G defined in the extension of the flared zones D, E of the heels 6 and 7, has the advantage of facilitating the placing of the iron on both sides of an extending part of the hoof in this zone, named the fourchette, which also contributes to the weight reduction, as do the bevelings and the variation of width of the cross-section.

According to a different characteristic of the invention, the external face of each of the side branches 4, 5 has on its outer surface a plurality of holes or nail holes 8 to 11 and 12 to 15 intended to receive the nails. These nail holes are advantageously, but not exclusively, arranged in a curved groove 20.

5                   As one can notice in the collection of the figures and according to a different characteristic of the invention, the shoe 1 can have toe pieces 3 or grips, on both sides in zones bordering with the side branches 4, 5, of the nail holes 11, 15 extending transversely in a central zone and the length of which is bigger than the thickness of the blade of the corresponding nail, so as to position this nail in an ideal nailing zone, namely  
10                   near the white line LB of the hoof 2.

As Figure 5 shows particularly well, each of transverse nail holes 11, 15 is, for example, of truncated pyramidal form widening towards the external face of the toe piece 3.

15                   According to a different characteristic of the invention represented in the figures, but more particularly in Figures 5 and 6, the inner surfaces of the truncated pyramidal transverse nail holes 11 and 15 includes notches 21, in order to allow locking the nail head in a selected position in nail hole.

It will be added that the inventive shoe facilitates installation with a maximum fit towards the rear of the foot (called a shoe with truncated toe piece). The  
20                   modification of the shape of the iron in this zone by flattening out of toe piece will facilitate mounting towards the rear of the foot. In order to maintain the possibility of positioning the nail in the ideal nailing zone, namely the white line of the hoof, the punched zone intended to receive the nail, i.e. the nail hole, could have this transverse form (to position the nail as well as possible in the white line) and notched, in order to allow  
25                   blocking movement of the nail head in the radial direction.

Of course, the invention is not limited to the embodiments described and represented by way of example, but it includes also all the technical equivalents as well as their combinations.